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**PRELIMINARY ASSESSMENT/
VISUAL SITE INSPECTION**

**FORD MOTOR COMPANY, MICHIGAN CASTING CENTER
FLAT ROCK, MICHIGAN
MID 058 819 822**

FINAL REPORT

Prepared for

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460**

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EXECUTIVE SUMMARY

PRC Environmental Management, Inc. (PRC), performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Ford Motor Company (Ford) Michigan Casting Center (MCC) site in Flat Rock, Michigan. This report summarizes the results of the PA/VSI and evaluates the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified. In addition, a completed U.S. Environmental Protection Agency (EPA) Preliminary Assessment Form (EPA Form 2070-12) is included in Attachment A to assist in prioritization of RCRA facilities.

Ford began operations at MCC in 1971. No information is available on the activities that occurred at the site before 1971. Ford manufactured cast-iron automobile parts for use in the automotive industry. The MCC site occupies about 310 acres of a sparsely populated rural area and contains a landfill, a outside container storage area, two outside underground storage tanks, a manufacturing building (the MCC Building), and a stormwater retention pond. Ford stopped operating at the site in 1982. The outside container storage area and underground storage tanks are no longer present at the site.

In 1985, Mazda Motor Manufacturing Corporation (Mazda) purchased the property east of the landfill area, including the stormwater retention pond and the MCC Building. The outside container storage area and underground storage tanks were located on this property. Ford currently owns the landfill. Mazda operations began in the fall of 1986. Mazda built a new plant (the Mazda Plant) north of the stormwater retention pond and the MCC Building. Mazda has been using the MCC Building primarily for equipment storage and recreational purposes. Currently, Mazda assembles various automobile lines at the Mazda Plant. PRC was not allowed to inspect the recently constructed Mazda Plant and its operations because Mazda applied for and received a new U.S. EPA identification number for the plant, and the plant was not present at the site when Ford owned the property. However, all active SWMUs and AOCs at the site were inspected as well as the locations of the outside container storage area and the underground storage tanks that Ford previously operated.

On August 14, 1980, MCC submitted a Notification of Hazardous Waste Activity. MCC also submitted a Part A permit application for interim status as a treatment, storage, or disposal (TSD) facility on November 18, 1980. The permit application was for container storage of 825 gallons of hazardous waste in one container storage area, for tank storage in two underground tanks of 28,000 gallons of hazardous waste, and for treatment of 3,300 tons of hazardous baghouse dust in one treatment area on an annual basis. The baghouse dust treatment area was

closed in 1983. According to Ford, the container storage area and storage tanks were included on the Part A permit application as a protective filing in case the waste stored in the underground tanks and container storage area were determined to be hazardous waste. According to Ford, the waste stored in the underground tanks and container storage area (waste oil) was not a hazardous waste because (1) the waste did not exhibit any characteristic of a hazardous waste, and (2) the waste was recycled. Therefore, Ford claims that Ford never had interim status for these units.

The PA/VSI identified the following four SWMUs and two AOCs at the site:

Solid Waste Management Units

1. Landfill
2. Outside Container Storage Area
3. Outside Underground Storage Tanks
4. Baghouse Dust Treatment Area

Areas of Concern

1. MCC Building
2. Stormwater retention pond

PRC observed an accumulation of water in a cell (Cell B) of the Landfill. The Landfill is 80 acres in size and is currently inactive. Ford disposed of foundry wastes, including treated baghouse dust (D006 and D008), in the Landfill. It is not known if the water was from stormwater retention or if it was ground water. A hydrogeologic assessment conducted at the Landfill (SWMU 1) concluded that ground water samples taken in 1978 and 1979 were not contaminated. The study also concluded that the danger of contaminating the underlying aquifer is minimal due to the Artesian condition of the aquifer underlying the Landfill. The approximate locations of the Outside Container Storage Area (SWMU 2) and the Outside Underground Storage Tanks (SWMU 3) were inspected, and no signs of release were observed; the exact locations of these units are not known. No releases were observed at the Baghouse Dust Treatment Area, MCC Building, and stormwater retention pond.

No SWMU presents a threat of release via the air route because Ford's activities at the MCC site have ceased. No information was collected during the VSI concerning air releases from Mazda's plant.

Access to the Landfill is limited by a chain-link fence with three strands of barbed-wire. The City of Flat Rock receives its water supply from the City of Detroit, which is about 25 miles north of the site. The City of Detroit receives its water supply from Lake Erie, which is about 2 1/2 to 3 miles east of the City of Detroit. No wetlands are located on or near the MCC

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site. The MCC site, located in a sparsely populated rural area, has about 40 homes located within 1/2 mile to the north, south, and west. Smith Creek, the closest surface water body, runs from the northwest corner of the site to the southwest corner along a drainage ditch. From the southwest corner, the drainage ditch runs to the southeast corner of the site. From the southeast corner, Smith Creek runs southeast about 2-1/4 miles to Silver Creek. Silver Creek drains about 2 miles southeast into Lake Erie. The MCC site is not located within a 100-year flood plain.

The overall potential for the MCC site to release hazardous waste to the environment is low under current conditions. Although wastes in the Landfill are in contact with ground water, the ground water is under artesian conditions. Seeps near and around the Landfill (SWMU 1) should be further investigated. The cause of erosion near Cell D and water accumulation in Cell B of the Landfill (SWMU 1) should also be investigated. The Outside Underground Storage Tanks (SWMU 3) should be further investigated as to their exact location. The MCC Building (AOC 1) should be further investigated for past activities conducted at the building. The exact location of the two industrial wells should be determined. Future water quality and on-site soils should be characterized at the stormwater retention pond (AOC 2).

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. C05087 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from meeting standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading-unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility.
- Obtain information on the operational history of the facility.
- Obtain information on releases from any units at the facility.
- Identify data gaps and other informational needs to be filled during the VSI.

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA.
- Identify releases not discovered during the PA.
- Provide a specific description of the environmental setting.
- Provide information on release pathways and the potential for releases to each medium.
- Confirm operational, SWMU, AOC, and release information obtained during the PA.

The VSI includes interviewing appropriate facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all SWMUs, identifying evidence of releases, initially identifying potential sampling locations, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Ford Motor Company (Ford) Michigan Casting Center (MCC) site in Flat Rock, Michigan (MID 058 819 822). The PA was completed on February 21, 1991. PRC gathered and reviewed information from the Michigan Department of Natural Resources (MDNR) and from EPA Region 5 RCRA files. While reviewing information collected during the PA, PRC discovered that Mazda Motor Manufacturing Corporation (Mazda) had purchased a parcel of the MCC site and had obtained a new U.S. EPA identification number for the parcel. The original MCC site contained (1) a landfill, and (2) a parcel of land generally used for manufacturing purposes, including a manufacturing building (the MCC Building) and a stormwater retention pond. In 1985, Mazda purchased the parcel of land that Ford previously used for manufacturing purposes, and Ford

maintained ownership of the landfill. Mazda uses the MCC Building primarily for equipment storage and recreational purposes. In addition, Mazda constructed a new plant on the northern portion of the parcel of land. PRC notified EPA of the change of ownership, and EPA directed PRC to inspect the landfill currently owned by Ford, the stormwater retention pond, and the MCC Building, but not the new Mazda Plant.

The VSI was conducted on April 9, 1991. It included interviews with Ford and Mazda site representatives and a walk-through inspection of the site. Four SWMUs and two AOCs were identified at the facility.

PRC completed EPA Form 2070-12 using information gathered during the PA/VSI. This form is included in Attachment A. The VSI is summarized and 37 inspection photographs are included in Attachment B. Field notes from the VSI are included in Attachment C.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, release history, regulatory history, environmental setting, and receptors.

2.1 FACILITY LOCATION

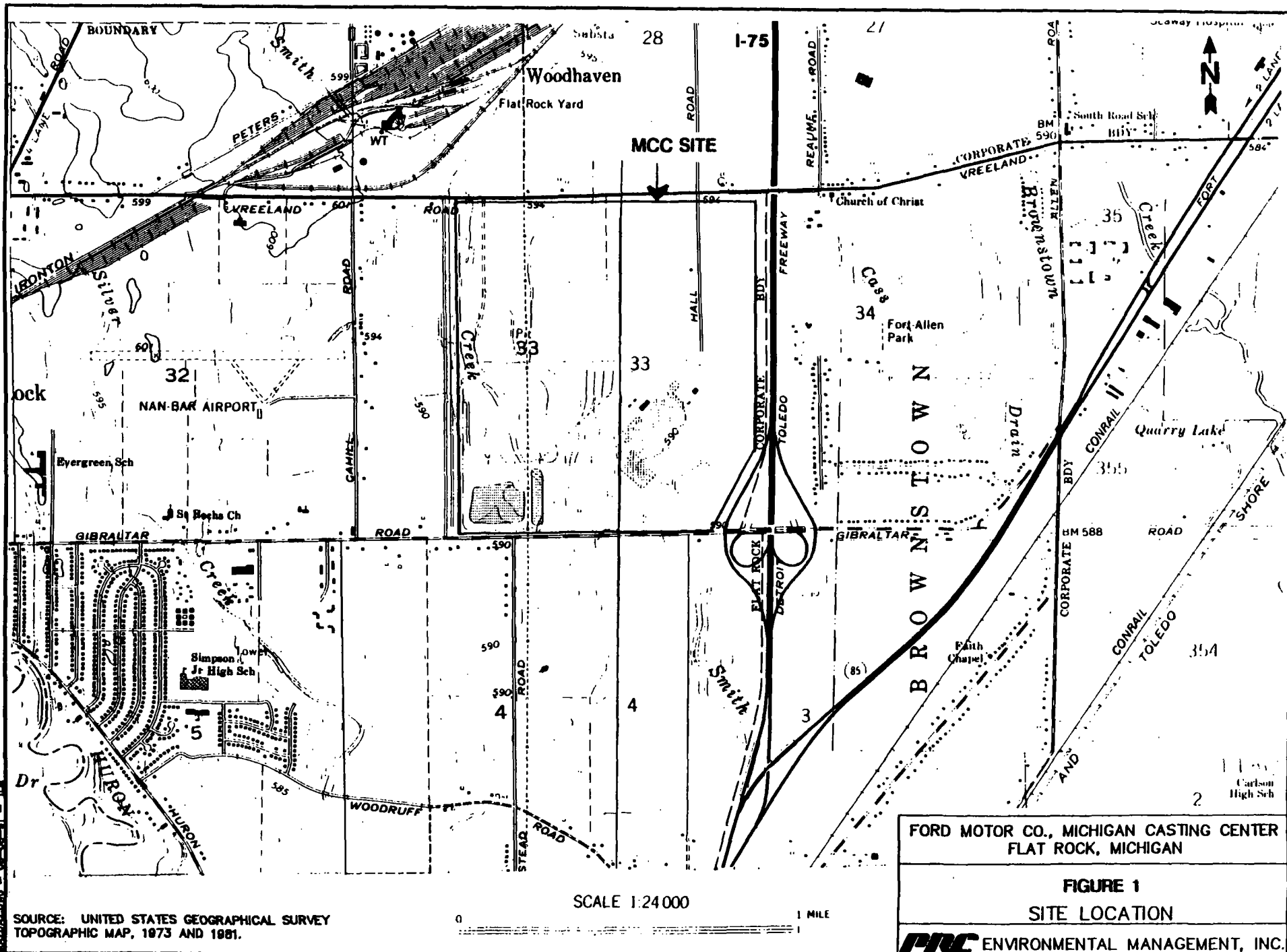
The MCC site is located at 22000 Gibraltar Road in the eastern part of the City of Flat Rock, Wayne County, Michigan (see Figure 1). The MCC site occupied about 310 acres of a sparsely populated rural area (42°06'15" N; 83°15'00" W). The parcel of land currently owned by Mazda occupies about 230 acres.

Access to the Ford landfill is from Hall Road. Access to the Mazda Plant is from Vreeland Road and Gibraltar Road. The MCC site is bordered on the north by Vreeland Road and a sparsely populated rural area, on the west by Hall Road and a sparsely populated rural area, on the south by Gibraltar Road and a sparsely populated rural area, and on the east by Interstate Highway 75 (I-75).

Smith Creek, the closest surface water body, enters the northwest corner of the site. It extends from the northwest corner of the site to the southwest corner along a drainage ditch. From the southwest corner, the drainage ditch runs to the southeast corner of the site. From the southeast corner, Smith Creek runs southeast about 2-1/4 miles to Silver Creek. Silver Creek drains about 2 miles southeast into Lake Erie.

2.2 FACILITY OPERATIONS

Ford began operations at the MCC in 1971, and closed the MCC Building in December 1981 (MDNR, 1982). No information is available on the activities that occurred on the site before 1971. Ford manufactured cast-iron automobile parts for use in the automotive industry. The exact number of people that were employed at the MCC is not known. The MCC site contained a Landfill (SWMU 1), an Outside Container Storage Area (SWMU 2), two Outside Underground Storage Tanks (SWMU 3), the MCC Building (AOC 1), and a stormwater retention pond (AOC 2). The landfill consisted of five cells (A, B, C, D, and E), which were excavated to a depth of about 20 feet. The excavated cells were lined with clay and filled with foundry wastes, including treated cupola baghouse dust. Cell B was partially filled with foundry wastes, including treated cupola baghouse dust and capped on the southeast corner of the cell. The cupola baghouse dust was generated in the cupola baghouses when manufacturing cast-iron parts;



blending of the cupola baghouse dust was included in the Part A permit application as the Baghouse Dust Treatment Area (SWMU 4). The Outside Container Storage Area (SWMU 2) and Outside Underground Storage Tanks (SWMU 3) stored waste oils generated during the cleaning and lubrication of machinery and equipment.

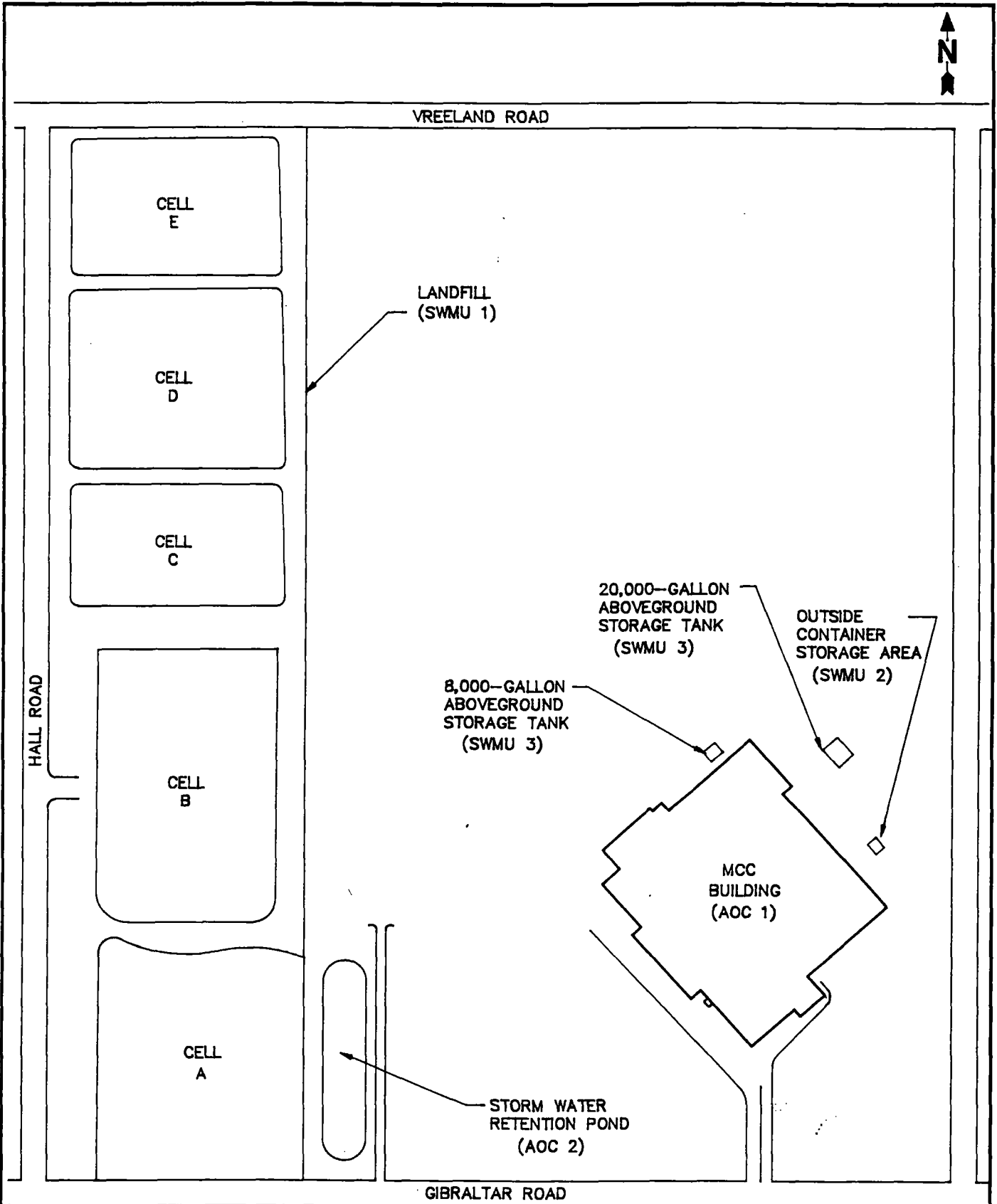
In 1985, Mazda purchased the site east of the landfill area, including the stormwater retention pond (AOC 2) and the MCC Building (AOC 1); Mazda operations began in the fall of 1986. Mazda built a new plant north of the stormwater retention pond and the MCC Building. Mazda renovated the MCC Building slightly to its present configuration (shown in Figure 3). Mazda has been using the MCC Building for equipment storage and recreational purposes. Currently, Mazda assembles various automobile lines at the new building (Mazda, 1991). Mazda did not allow PRC to inspect the new Mazda plant and its operations; however, all other SWMUs and AOCs were inspected. The exact number of employees at Mazda is not known.

The locations of the Landfill (SWMU 1), Outside Container Storage Area (SWMU 2), Outside Underground Storage Tanks (SWMU 3), MCC Building (AOC 1), and stormwater retention pond (AOC 2) are shown in Figure 2. Figure 2 shows the MCC site as it appeared in 1980. Figure 3 shows the present layout of the parcel of land currently owned by Mazda. The exact location of the Baghouse Dust Treatment Area (SWMU 4) is not known but was believed to have occurred at or near the landfill. In addition, the exact locations of SWMU 2 and 3 are not known because they have been removed. The locations given on Ford's RCRA Part A permit application are shown on Figure 2. SWMUs are listed in Table 1.

2.3 WASTE GENERATING PROCESSES

The primary hazardous waste streams generated by Ford at the MCC site were cupola baghouse dust and spent waste oils (see Table 2).

Cupola baghouse dust (D006 and D008) was generated from the melting of iron for automotive castings at the MCC Building. The dust was determined to be a hazardous waste when analyzed by the Extraction Procedure (EP) toxicity test. The cupola baghouse dust was blended with foundry sand and rendered nonhazardous. The treated cupola baghouse dust contained about 2 percent cupola baghouse dust and about 98 percent foundry sand. Until August 13, 1981, the treated dust was put in the landfill (SWMU 1). From August 13, 1981, until June 1982, when operations at the facility ceased, the treated dust was hauled off site for proper disposal (MDNR, 1982). It is not known how the baghouse dust was handled before it was hauled off site for disposal. The MCC Building generated about 3,300 tons of treated cupola baghouse dust annually. The treated dust was stored at the site for less than 90 days



NOTE:
THE LOCATION OF SWMU 4
IS NOT KNOWN.

NOT TO SCALE

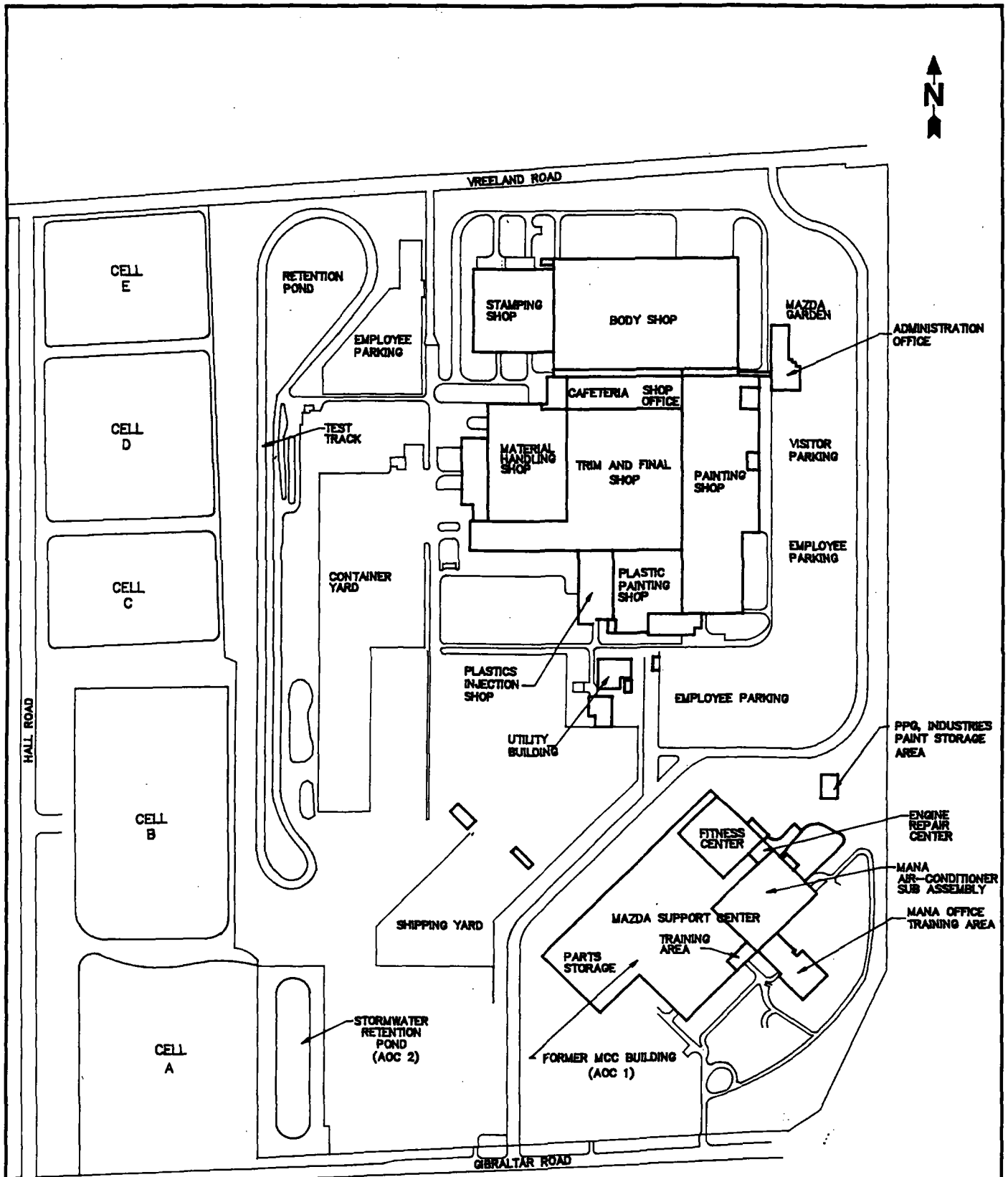
SOURCE: FORD MOTOR COMPANY, MICHIGAN CASTING CENTER, 1980b

MCC SITE
FLAT ROCK, MICHIGAN

FIGURE 2

SITE LAYOUT

PRC ENVIRONMENTAL MANAGEMENT, INC.



MAZDA.DWG - 1-30-92 - MJB

NOT TO SCALE
SOURCE: MAZDA, 1991

MAZDA SITE
FLAT ROCK, MICHIGAN
FIGURE 3
SITE LAYOUT
PRC ENVIRONMENTAL MANAGEMENT, INC.

TABLE 1
SOLID WASTE MANAGEMENT UNITS (SWMU)

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit*	Status
1	Landfill	No	Inactive, filled**
2	Outside Container Storage Area	Yes***	Inactive
3	Outside Underground Storage Tanks	Yes***	Inactive
4	Baghouse Dust Treatment Area	Yes	Inactive

Notes:

- * A RCRA hazardous waste management unit is one that currently requires or formerly required a RCRA Part A or Part B permit.
 - ** Cell B of landfill was only partially filled and capped.
 - *** According to Ford, the Outside Container Storage Area and the Outside Underground Storage Tanks were included on the Part A permit application as a protective filing and never held hazardous waste.
-

TABLE 2
SOLID WASTES

<u>Waste/EPA Waste Code</u>	<u>Source</u>	<u>Primary Management Unit*</u>
Foundry Wastes, Including Cupola Baghouse Dust/ D006 and D008	Iron Melting	1 and 4
Spent Waste Oils/D001 and D007	Machinery and Equipment Cleaning and Lubrication	2 and 3

Note:

- * Primary management unit refers to a SWMU that managed the waste.
-

(MDNR, 1982).

Ford also generated spent waste oils (D001 and D007) in the form of phosphate esters from the cleaning of machinery and equipment and in the form of petroleum from the lubrication of the machinery and equipment at the MCC Building. MCC had one 20,000-gallon outside storage tank for reclaimable oil located northeast of the MCC Building and one 8,000-gallon outside storage tank that stored scrap oil located north of the MCC Building. Spent waste oils were either removed from sumps in the MCC Building and emptied into the underground Outside Underground Storage Tanks or put in 55-gallon drums and stored in the Outside Container Storage Area (SWMU 2). Ford generated about 330 tons of spent waste oils annually (MCC, 1980b). Spent waste oils were stored at the site for less than 90 days (MDNR, 1981). According to Ford, the spent waste oils were transported off site for recycling.

It is not known if any other hazardous wastes were generated at the MCC Building.

2.4 RELEASE HISTORY

On August 27, 1984, the Wayne County Department of Public Health informed Ford that Cell B of the Landfill had begun to accumulate with water (MDNR, 1989). Ford was requested to perform maintenance work as required by Michigan Act 641 to mitigate and prevent accumulation of water in Cell B. The source of the water in Cell B was primarily the underlying limestone aquifer. Cell B was excavated to 20 feet; an additional 15 feet of clay below the 20-foot excavation acts as a protective layer against possible ground-water contamination. The 15 feet of clay is subjected to an upward pressure from the confined ground water in the underlying limestone aquifer. This pressure produced an upward hydraulic gradient of about 2 feet per foot through the 15-foot clay base of Cell B, which is sufficient to cause seepage into Cell B. The upward hydraulic pressure and seepage also caused instability in the cell bottom, resulting in erosion or breakthrough of the confined ground water directly into Cell B. The water apparently was contained in the excavated area of Cell B; it is not known whether there was a release to Smith Creek. The breakthrough was repaired by pumping the water out, plugging the seep with bentonite, and weighing the seal down with several feet of native clay soil (University of Michigan, 1986).

The University of Michigan conducted a hydrogeologic assessment at the MCC site in 1986. Analytical results of ground-water samples taken from Cells B, D, and E of the Landfill (SWMU 1) in 1978 and 1979 and surface water samples taken from stormwater retention pond (AOC 2) in 1985, which received runoff from the Landfill were reported in the assessment. The study concluded that there was no degradation of water quality at the Landfill. The study

concluded that danger of contamination of the underlying aquifer is either precluded or mitigated by (1) the relatively nontoxic nature of the treated cupola baghouse dust deposited in the landfill, (2) plans to fill Cell B with clean, native soil, (3) the clay-rich, impermeable nature of the soil in which the cells have been excavated, (4) good adsorption or attenuation properties of the cell walls and bottom for leachate solutes (for example, heavy metals), and (5) the artesian conditions in the underlying aquifer. The artesian conditions tend to cause water to flow into the cells as occurred in 1984. This influx would oppose any outward diffusion or transport of leachate solutes. The study also concluded that no contamination problems have been associated with the Landfill in the recent past nor are there reasons to suspect any problems in the future.

Other breakthroughs and seeps have formed in the bottom of Cell B, and water has continued to accumulate in Cell B. The average water depth observed was about 4 to 5 feet in the north end of Cell B. Ford planned to repair the breakthroughs and seeps in the same manner as stated above. The repair will increase the effective surcharge stress on the bottom of Cell B and decrease Cell B's hydraulic conductivity (University of Michigan, 1986). PRC does not know if the breakthroughs and seep were repaired.

No fires, explosions, or soil, surface water, ground-water, or air releases have been documented at the facility.

2.5 REGULATORY HISTORY

On August 14, 1980, Ford submitted a Notification of Hazardous Waste Activity (Ford, 1980a). Ford also submitted a Part A permit application for interim status as a treatment, storage, or disposal (TSD) facility on November 18, 1980 (Ford, 1980b). The permit application was for storage of 825 gallons of hazardous waste in containers, storage of 28,000 gallons of hazardous waste in underground tanks, and treatment of 4 tons per hour of hazardous waste. The tank sizes were 8,000 gallons for scrap oil and 20,000 gallons for reclaimable oil. The permit application included a map indicating the spent waste oils as being contained in SWMU 2 and SWMU 3. The listed hazardous waste code on the permit application was chromium (D007) for storage in drums (SWMU 2) and in tanks (SWMU 3). A RCRA inspection indicated that the spent waste oils were also classified as ignitable (D001) (MDNR, 1981). Cadmium (D006) and lead (D008) were also included in the permit application for the treatment of cupola baghouse dust. The Baghouse Dust Treatment Area (SWMU 4) process consisted of adding about 98 percent foundry sand to about 2 percent cupola baghouse dust and disposing of the nonhazardous mixture in the Landfill (SWMU 1). It is not known how the wastes were blended. The maximum process design capacity was for treatment of 4 tons per hour of cupola baghouse dust. Ford stated that the Outside Container Storage Area (SWMU 2) and Outside Underground Storage

Tanks (SWMU 3) were included on the permit application as a protective filing in case the waste stored in the underground tanks and the container storage area were determined to be hazardous. According to Ford, the waste (waste oil) stored in the Outside Container Storage Area and the Outside Underground Storage Tanks was not a hazardous waste because (1) the waste did not exhibit any characteristic of a hazardous waste, and (2) the waste was recycled. Therefore, Ford claims that Ford never had interim status (Ford, 1991a) for these units.

No Part B permit application had been submitted for the site. Ford submitted a closure plan for the Baghouse Dust Treatment Area (SWMU 4) and the Landfill (SWMU 1) (Ford, 1981). The closure plan included only Cell B of the Landfill because Cells A, C, and D were closed before November 1980, and Cell E was closed before April 1981 (Ford, 1981). For closure of the Baghouse Dust Treatment Area, Ford mixed the remaining cupola baghouse dust with foundry sand and disposed of the waste in Cell B of the Landfill. Cell B was then capped with 2 feet of clay. EPA requested additional information regarding the cupola baghouse dust analysis for the closure plan (Ford, 1982a). EPA was not satisfied with the cupola baghouse dust analysis, because the analysis predated the EP toxicity protocol of May 19, 1980. EPA requested analyses after May 19, 1980, or a detailed analyses conducted prior to May 19, 1980 (U.S. EPA, 1982a). Ford submitted the analyses of the cupola baghouse dust prior to May 19, 1980 (Ford, 1982b). EPA was not satisfied with the information submitted and again requested analyses after May 19, 1980, or a detailed analyses conducted prior to May 19, 1980 (U.S. EPA, 1982b). Ford reanalyzed the cupola baghouse dust and sent the results to EPA (Ford, 1982c). EPA found the analysis acceptable and the closure plan was approved (U.S. EPA, 1983). On March 3, 1983, Ford submitted the required closure plan certification to EPA (Ford, 1983).

The Landfill was initially included on the Act 307 Proposed Priority Lists for Fiscal Year 1990, as the result of reports by the Flat Rock City Council that leachate breaks were occurring on the Landfill covers in the closed portion of the cell and that water was reported in the bottom of Cell B. The water was the result of the excavation extending too deep into the clay base to support the natural artesian pressure of the underlying aquifer. The clay base was repaired and Cell B was filled to the surface. The site did not meet the definition of a site of environmental contamination set forth in Rule 22 of the Emergency Rules for Act 307, and the site was deleted from the Final Priority Lists for Fiscal Year 1990, as the result of unfounded allegations by the Flat Rock City Council (MDNR, 1989).

RCRA site inspections conducted in 1981 and 1982 did not reveal violations (MDNR, 1981 and 1982). According to Ford's Part A permit application, the MCC did not have any air or National Pollutant Discharge Elimination System (NPDES) permits (1980b). No air or NPDES permits were found during the PA.

2.6 ENVIRONMENTAL SETTING

This section describes the climate, flood plain and surface water, geology and soils, and ground water in the vicinity of the MCC site.

2.6.1 Climate

The climate of Flat Rock is influenced by its location within major storm tracks and near the Great Lakes. Winter storms bring combinations of rain, snow, freezing rain, and sleet, with occasional heavy snowfall accumulations. In summer, most storms pass to the north, allowing for intervals of warm, humid, sunny weather with occasional thunderstorms, followed by days of dry, fair weather.

Summer temperatures range from 38°F to 104°F; the maximum average summer temperature is 72°F. The average winter temperature is 28°F, with temperatures ranging from - 9°F to 70°F. The average annual precipitation is 29.26 inches. More than half of the precipitation falls from May through September. The 1-year, 24-hour rainfall is 3.7 inches; the average annual net precipitation is 7.8 inches (National Climatic Data Center, 1989).

2.6.2 Flood Plain and Surface Water

Smith Creek, the closest surface water body to the site, enters the northwest corner of the site. In the vicinity of the site, it extends from the northwest corner of the site to the southwest corner along a drainage ditch. From the southwest corner, the drainage ditch runs to the southeast corner of the site. From the southeast corner, Smith Creek runs southeast about 2-1/4 miles to Silver Creek. Silver Creek drains about 2 miles southeast into Lake Erie.

The City of Flat Rock receives its water from the City of Detroit public water supply, about 25 miles north of the site (University of Michigan, 1986). The City of Detroit receives its water supply from Lake Erie, which is about 2 1/2 to 3 miles east of the City of Detroit.

No wetlands have been identified near or on the MCC site. The MCC site is not located within a 100-year flood plain (Flood Insurance Rate Map, 1982).

2.6.3 Geology and Soils

The site and environs are situated on unconsolidated overburden or glacial drift, which in turn rests on sedimentary rock strata. The unconsolidated overburden or drift consists essentially of clay and silty clay interspersed with traces of sand and gravel. The overburden or drift extends to a depth of 30 to 40 feet below the land surface at the Landfill area. This unit is underlain by a dolomitic limestone bedrock, which is an aquifer under artesian pressure. No usable ground water exists in the silty clay, which is relatively impermeable because of its high clay content and general absence of sand lenses. Locally the topography is very gently sloping to almost flat. Most of the ground surface lies between 585 and 595 feet in elevation. The site generally slopes and drains to the southwest. This terrain feature is part of the glacial lake plain of southeastern Michigan, a surface veneered with sediments deposited in lakes ancestral to the present Great Lakes (University of Michigan, 1986).

2.6.4 Ground Water

Ground water most likely flows from northeast of the site to the southwest, towards the Huron River, which is considered the main hydrogeological sink in the area. Ground water occurs in voids and fractures in the limestone underlying the site. The deep aquifer in the area is confined by bedrock. The soil of Flat Rock consists of some shallow lenses of sand and gravel with clay to about 30 feet below ground surface (Braisth Waite Company, 1991).

Flat Rock well logs indicate that wells closest to the MCC site are two industrial wells at the southeast corner of the MCC site. Ford owns one of the wells; its depth is 221 feet. Edward C. Levy owns one well; its depth is 205 feet (MDNR, 1991). The Levy well is believed to be located at the Levy Penhill Landfill (Ford, 1992). Well logs show that both well soils consist of clay, limestone, and sandstone. The exact location of the wells are unknown. Two wells are about 1/2 mile southwest of the site and are also most likely downgradient of the site; these wells include a domestic well and an industrial well with depths of 36 and 26 feet, respectively. Two industrial wells are about 1 mile northwest of the site and are upgradient of the site (MDNR, 1991).

The exact number of Ford employees at the MCC site is not known. The MCC site occupied about 310 acres of a sparsely populated rural area. The current Mazda site occupies about 230 acres.

Access to the Landfill is limited by a chain-link fence with three strands of barbed-wire. About 40 homes are located within 1/2 mile north, south, and west of the site. The City of Flat Rock receives its water supply from the City of Detroit, which is about 25 miles north of the site. No wetlands are located on or near the MCC site. Smith Creek, located on the site, is the closest surface water and is used for recreational purposes.

The clay-rich confining layer directly under the MCC site is not used for any water supply purposes. Well logs indicated that the wells closest to the MCC site are two industrial wells located at the southeast corner of the MCC site. The exact location of the wells is not known. The University of Michigan report stated that two wells are located in the MCC Building, but they are not in use and are capped.

Currently, no known threat of exposure to human and environmental populations exists from the operations at the MCC site.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the four SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of release, and PRC observations.

SWMU 1

Landfill

Unit Description:

This unit (see Photo Nos. 1 to 23) is located on the west side of the MCC site (see Figure 2). The unit was not listed in the Part A permit application and never had interim status. The landfill consists of five cells (A, B, C, D, and E), which were excavated to a depth of about 20 feet. The base of the Landfill reportedly is underlain by 10 to 20 feet of clay (University of Michigan, 1986). The excavated cells were lined with clay and filled with foundry wastes, including treated cupola baghouse dust. The landfill was filled about 20 feet below ground surface and about 20 feet above ground surface for a total of 40 feet of foundry waste, including treated cupola baghouse dust. Cells A, C, D, and E were completely filled with the foundry wastes, including treated cupola baghouse dust and capped with two feet of clay. The cells were not capped with soil and ground cover. Cell B was partially filled with the foundry wastes, including treated cupola baghouse dust and capped on the southeast corner of the cell. Cell A is about 720 by 750 feet, Cell B is about 650 by 825 feet, Cell C is about 700 by 450 feet, Cell D is about 700 by 550 feet, and Cell E is about 700 by 600 feet. The unit occupies about 80 acres. The unit is surrounded by a 6-foot, chain-link fence with three strands of barbed-wire; the only access to it is through a locked gate.

Date of Startup:

The unit had been in operation since about 1971, when the site opened; the exact startup date is unknown.

Date of Closure:

Cell A, C, and D were closed before November 1980, and Cell E was closed in April 1981. Cell B was to be closed, but the VSI revealed that only the southeast corner of Cell B was filled and capped.

Wastes Managed: This unit manages cupola baghouse dust that has been blended with foundry sand and rendered nonhazardous.

Release Controls: The unit was excavated to a depth of about 20 feet. The excavations were lined with clay and filled. Cells A, C, D, and E were completely filled with foundry wastes, including treated cupola baghouse dust and then capped. Cell B was not completely filled with treated cupola baghouse dust. Cells A, C, D, E, and part of Cell B were covered with 2 feet of clay, graded, and seeded. About six drainage pipes were installed to direct precipitation from the top of the landfill and prevent erosion (see Photo No. 14).

History of Release: No records exist of hazardous waste releases from this unit.

Observations: PRC did not observe any visible evidence of releases. During the VSI, PRC observed that Cell B had accumulated water in several sections; it is not known if the water was ground water or stormwater retention. A possible seep was observed west of Cell C that leads to Smith Creek (see Photo No. 8). Erosion was also observed at the middle of Cell D on the west side (see Photo No. 15). This area was covered with hay to reduce erosion.

SWMU 2

Outside Container Storage Area

Unit Description: The unit was located about 250 feet east of the MCC Building (AOC 1). The exact location of this unit was not identified during the VSI because Ford no longer occupies the MCC Building and the Mazda representative did not know the location of the container storage area. The location believed to be the Outside Container Storage Area is shown in Photo Nos. 24, 25, 26, and 27. The unit was listed in the Part A permit application, but Ford considered it a protective filing. Ford stated that the unit never held hazardous waste, and therefore never had interim status. Ford also stated that the waste managed (waste oil) was recycled. The unit was about 50 by 50 feet in size. It is not known if the unit was covered or if the unit had containment.

Date of Startup: The unit had been in operation since about 1971, when the site opened; the exact startup date is unknown.

Date of Closure: The unit became inactive in 1982, when the MCC site ceased operations; it was never certified closed.

Wastes Managed: This unit managed spent waste oils (D001 and D007). It is not known if other wastes were also managed at this unit.

Release Controls: This unit had no known release controls.

History of Release: No records exist of hazardous waste releases from this unit.

Observations: The exact location of the unit is not known. Approximate areas where the unit may have been located were inspected, and PRC observed no indication that a release had occurred in the past.

SWMU 3

Unit Description:

Outside Underground Storage Tanks

The unit consisted of two outside underground storage tanks with capacities of 8,000 and 20,000 gallons. The 8,000-gallon outside underground storage tank was located about 10 feet from the north corner of the MCC Building (AOC 1). The 20,000-gallon outside underground storage tank was located about 500 feet from the north corner of the MCC Building (AOC 1). The underground tanks reportedly are no longer used and have been removed. The former locations of the tanks are shown in Photo Nos. 28, 29, 30, and 31. The unit was listed in the Part A permit application, but Ford considers it a protective filing, and Ford claims the tanks never had interim status.

Date of Startup: The unit had been in operation since about 1971, when the site opened; the exact startup date is unknown.

Date of Closure: The unit became inactive in 1982, when the MCC site ceased operations; it was never certified closed.

Wastes Managed: This unit managed spent waste oils (D001 and D007).

Release Controls: This unit had no known release controls.

History of Release: No records exist of hazardous waste releases from this unit.

Observations: The exact location of the unit is not known. Approximate areas where the unit may have been located were inspected, and PRC observed no indication that a release had occurred in the past.

SWMU 4 Baghouse Dust Treatment Area

Unit Description: The exact location of the unit is unknown. The unit was listed in the Part A permit application. The unit treated about 4 tons of hazardous waste per hour.

Date of Startup: The unit had been in operation since about 1971, when the site opened; the exact startup date is unknown.

Date of Closure: The unit was certified closed on March 3, 1983.

Wastes Managed: The unit blended hazardous cupola baghouse dust (D006 and D008) with foundry sand and rendered it nonhazardous. It is not known how the wastes were blended.

Release Controls: This unit had no known release controls.

History of Release: No records exist of hazardous waste releases from this unit.

Observations: The exact location of the unit is not known, but according to Ford personnel, it is suspected to be at or near the landfill.

4.0 AREAS OF CONCERN

PRC identified two AOCs during the PA/VSI. They are discussed below.

AOC 1 MCC Building

The exact operations that occurred at the MCC Building from 1971 to 1982, when operations ceased, are not known. MCC manufactured cast-iron automobile parts for use in the automotive industry. The VSI included an inspection of the MCC Building's basement. PRC observed various paint booths that had been used in the past; whether solvent- or water-based paints were used is not known. PRC also observed several areas in the MCC Building that may have been sumps or industrial wells, but lids could not be removed to observe the contents. According to Ford, waste oil was collected in some sumps in the MCC building. The waste oil was removed from the sump and emptied into the Outside Storage Tanks (1991b).

Wells logs indicate that the wells closest to the MCC site include two industrial wells at the southeast corner of the MCC site (MDNR, 1991). The industrial wells are capped and are no longer in use (University of Michigan, 1986). The exact location of the wells is unknown, but both are most likely downgradient of the site (MDNR, 1991) and may be located in the MCC Building. The wells tapped the artesian ground-water in the underlying limestone bedrock. Drillers detected a strong sulfur odor emanating from ground-water boreholes (University of Michigan, 1986). Ford owns one of the wells; its depth is 221 feet (MDNR, 1991). The wells should be located so it can be determined whether the wells are capped and no longer used or if the wells are plugged and abandoned.

AOC 2 Stormwater Retention Pond

The stormwater retention pond receives runoff from the Landfill (SWMU 1) and other areas at the site (see Photo Nos. 32, 33, 34, 35, 36, and 37). Surface water quality analyses of AOC 2 concluded that AOC 2 did not appear to be contaminated (University of Michigan, 1986). PRC observed a small seep from the landfill that was on the west side of AOC 2 (see Photo No. 35). The analyses conducted on the surface water quality of AOC 2 was not available. AOC 2 is secured by a 6 foot, chain-link fence with three strands of barbed-wire and a locked gate.

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5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified four SWMUs and two AOCs at the MCC site. Background information on the facility's location, operations, waste generating processes, release history, regulatory history, environmental setting, and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, release history, and observed condition, is discussed in Section 3.0. Similarly, the AOC-specific information is discussed in Section 4.0. Following are PRC's conclusions and recommendations for each SWMU and AOC. Table 3 identifies the four SWMUs and two AOCs at the MCC facility and suggested further actions.

SWMU 1

Landfill

Conclusions:

PRC observed possible releases at SWMU 1. PRC observed water in Cell B of SWMU 1. It is not known if the accumulated water was ground water or stormwater retention. PRC also observed erosion at the middle of Cell D on the west side and a seep from Cell C to Smith Creek.

The potential for release via environmental media is summarized below.

Ground Water: A low threat of ground-water contamination exists from this SWMU. The soil in the area consists mainly of clayey silt soils that have low permeability. In addition, ground-water under the landfill is artesian. Therefore, there is a low potential for contaminants to migrate from the Landfill to the ground-water.

Surface Water: A moderate threat of surface water contamination exists from this SWMU. A seep was observed west of Cell C that flowed to Smith Creek. The chemical characteristics of the seep water is unknown.

Air: A low threat of air contamination exists from this SWMU. The SWMU is partially closed, and Cell B is inactive. There is a low potential for waste from the Landfill to be emitted to the air.

On-site soil: A moderate threat of soil contamination exists from this SWMU. Erosion was observed near Cell D.

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TABLE 3

SWMU AND AOC SUMMARY

	<u>SWMU</u>	<u>Operational Dates</u>	<u>Evidence of Release</u>	<u>Suggested Further Action</u>
1.	Landfill	1971 to 1982	Accumulated water was observed in Cell B of the Landfill; a seep was observed at Cell C that flowed to Smith Creek.	The cause of erosion near Cell D and the cause of water accumulation at Cell B should be investigated. The seep west of Cell C that leads to Smith Creek should also be investigated.
2.	Outside Container Storage Area	1971 to 1982	None.	None.
3.	Outside Underground Storage Tanks	1971 to 1982	None.	The exact locations of tanks should be determined and soil sampling should be conducted.
4.	Baghouse Dust Treatment Area	1971 to 1983	None.	None.

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TABLE 3
SWMU AND AOC SUMMARY
(Continued)

	<u>AOC</u>	<u>Operational Dates</u>	<u>Evidence of Release</u>	<u>Suggested Further Action</u>
1.	MCC Building	1971 to 1982	None.	Further investigation concerning MCC past activities should be conducted because the MCC Building activities are unknown. The exact location of the two industrial wells should be determined.
2.	Stormwater Retention Pond	1971 to present	A small seep from the Landfill (SWMU 1) was located on the west side of AOC 2.	Water quality and on-site soils should be characterized. The cause of the small seep should be investigated.

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Recommendations: The cause of the erosion at Cell D and the cause of water accumulation at Cell B should be investigated. The seep west of Cell C that leads to Smith Creek should also be investigated.

SWMU 2 Outside Container Storage Area

Conclusions: PRC did not find or observe any evidence of release from this unit. The unit was located about 250 feet east of the MCC Building. The unit was listed in the Part A permit application, but Ford considered it a protective filing, and the unit never had interim status. It is not known if the unit was covered or if the unit had any means to contain spills.

The potential for a release to ground water, surface water, air, and on-site soil is believed to be low if wastes were handled properly; however, insufficient information exists concerning Ford's waste management activities. PRC observed no evidence of release in the approximate area where SWMU 2 was located.

Recommendations: No sampling or monitoring is needed at this time.

SWMU 3 Outside Underground Storage Tanks

Conclusions: PRC did not find or observe any evidence of release from this unit. SWMU 3 consisted of two outside storage tanks located near the MCC Building (AOC 1). The exact location of SWMU 3 is not known. The unit was listed in the Part A permit application, but Ford considered it a protective filing, and the unit never had interim status. PRC was unable to determine whether Ford or Mazda removed the tanks or whether or not the tanks had secondary containment.

The potential for release via environmental media is summarized below.

Ground Water: A low threat of ground-water contamination exists from this SWMU. The tanks were over 10 years old when removed and may have leaked; however, the site is underlain by clay that would have acted to retard the migration of contaminants.

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Surface Water: A low threat of surface water contamination exists from this SWMU because the SWMU no longer exists and there is no direct migration pathway to a surface water body.

Air: A low threat of air contamination exists from this SWMU because the unit no longer exists.

On-site soil: A moderate threat of soil contamination exists from this SWMU. PRC observed no release in the approximate area where SWMU 3 was located; however, the SWMU may have leaked in the past.

Recommendations: The exact locations of tanks should be determined and soil sampling should be conducted.

SWMU 4 Baghouse Dust Treatment Area

Conclusions: PRC did not find or observe any evidence of release from this unit. The exact location of SWMU 4 is not known. The unit blended hazardous cupola baghouse dust (D006 and D008) with foundry sand and rendered it nonhazardous, and was certified closed on March 3, 1983.

The potential for a release to ground water, surface water, air, and on-site soil is low because the unit was certified closed, and no records of hazardous waste releases exist for the unit.

Recommendations: No sampling or monitoring is needed at this time.

AOC 1 MCC Building

Conclusions: PRC did not find or observe any evidence of release from this unit. The exact operations that occurred at the MCC Building from 1971 to 1982, when operations ceased, are not known. The MCC Building basement contained various paint booths that had been used in the past; whether solvent or water-based paints were used is not known. PRC also observed several areas in the MCC Building that may have been sumps or industrial wells, but lids could not be removed to observe the contents.

The potential for release via environmental media is summarized below.

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Ground Water: A low threat of ground-water contamination his AOC. The MCC Building is underlain by clay. Although the exact nature of activities is unknown, there is no documented evidence of release.

Surface Water: A low threat of surface water contamination exists from this AOC. The MCC Building is currently used for equipment storage and recreational purposes.

Air: A low threat of air contamination exists from this AOC because no manufacturing activities occur in the building.

On-site soil: A low threat of soil contamination exists from this AOC.

Recommendations: Further investigation concerning Ford's past activities should be conducted, because the MCC Building activities are unknown. The exact location of the two industrial wells should be determined.

AOC 2 Stormwater Retention Pond

Conclusions: The stormwater retention pond receives runoff from the Landfill (SWMU 1) and Mazda Plant. A hydrogeologic assessment concluded that surface water quality analyses from AOC 2 did not appear to be contaminated. PRC observed a small seep from the Landfill (SWMU 1) on the west side of AOC 2.

The potential for release via environmental media is summarized below.

Ground Water: A low to moderate threat of ground-water contamination exists from this AOC. Water in the stormwater retention pond has direct contact with the soil. The soil in the area consists of silty clay that is highly impermeable. Nevertheless, the stormwater retention pond has been in operation since 1971, and may have leached into the ground water in the past 20 years.

Surface Water: A low threat of surface water contamination exists from this AOC.

Air: A low threat of air contamination exists from this AOC. The SWMU does not manage water that contains compounds that readily volatilize.

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On-site soil: A low threat of soil contamination exists from this AOC. The water in the stormwater retention pond has direct contact with the soil. A small seep was also observed on the west side of the stormwater retention pond.

Recommendations: Water quality and on-site soils should be characterized. The cause of the small seep should be investigated.

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- U.S. EPA, 1982b. Joseph M. Boyle, Waste Management Branch, Letter to A. B. M. Houston, Manager of Ford Motor Company Compliance and Liaison Department, August 27.

U.S. EPA, 1983. Closure Plan Approval, January 11.

ATTACHMENT A

EPA PRELIMINARY ASSESSMENT FORM 2070-12



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE MI	02 SITE NUMBER MD 058 819 822
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II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)
Ford Motor Company, Michigan Casting Center

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
22000 Gibraltar Road

03 CITY
Flat Rock

04 STATE MI	05 ZIP CODE 48134	06 COUNTY Wayne	07 COUNTY CODE	08 CONG DIST
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09 COORDINATES: LATITUDE LONGITUDE
42 08 15.N | 83 15 00.W

10 DIRECTIONS TO SITE (Starting from nearest public road)

Take 76 south. Exit Vreeland Road and go west about 2 miles and south on Hall Road and proceed 1/2 mile and turn east to landfill.

III. RESPONSIBLE PARTIES

01 OWNER (If known)
Ford Motor Company / Mazda Motor Manufacturing Corporation

02 STREET (Business, mailing, residential)
15201 Century Drive, Ste. 608 (Ford) / 1 Mazda Drive (Mazda)

03 CITY
Dearborn (Ford) / Flat Rock (Mazda)

04 STATE MI	05 ZIP CODE 48120/48134	06 TELEPHONE NUMBER (313) 322-0700 (Ford)/(313) 782-7800 (Mazda)
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07 OPERATOR (If known and different from owner)

08 STREET (Business, mailing, residential)

09 CITY

10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER
----------	-------------	---------------------

13 TYPE OF OWNERSHIP (Check one)

- ☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

- ☒ A. RCRA 3010 DATE RECEIVED: 8 / 14 / 80 ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ____ / ____ / ____ ☐ C. NONE
MONTH DAY YEAR MONTH DAY YEAR

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION

BY (Check all that apply)

- ☒ YES DATE 04/09/91 ☐ A. EPA ☐ B. EPA CONTRACTOR ☐ C. STATE ☐ D. OTHER CONTRACTOR
☐ NO ☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: MDNR (Specify)

CONTRACTOR NAME(S): PRC Environmental Management, Inc.

02 SITE STATUS (Check one)

- ☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION

1971	Present	<input type="checkbox"/> UNKNOWN
BEGINNING YEAR	ENDING YEAR	

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Cupola Baghouse Dust (D006 and D008) and spent waste oils (D001 and D007).

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Currently, no known threat to humans or the environment exists from the solid waste management units at the site (landfill, outside container storage area, outside storage tanks, and baghouse dust treatment area) or the areas of concern (Michigan Casting Center building and stormwater retention pond).

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents.)

- ☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time-available basis) ☐ D. NONE (No further action needed; complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT
Kevin Pierard

02 OF (Agency/Organization)
U.S. EPA Region 5

03 TELEPHONE NUMBER
(312) 856-4448

04 PERSON RESPONSIBLE FOR ASSESSMENT
Mary Joyce Freibert

05 AGENCY

06 ORGANIZATION
PRC EMI

07 TELEPHONE NUMBER
(312) 856-8700

08 DATE
09/26/91
MONTH DAY YEAR

ATTACHMENT B

VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

VISUAL SITE INSPECTION SUMMARY

**MCC
Flat Rock, Michigan
MID 058 819 822**

Date: April 9, 1991

Facility Representatives: Jeffrey L. Hartland, Environmental Quality Analyst, Ford Motor Company
Terry Filipiak, Professional, Production Engineering Operations, Mazda Manufacturing Corporation

Inspection Team: Mary Joyce Freibert, PRC
Michael Johnson, PRC
Tim Sonnenberg, MDNR

Photographer: Michael Johnson, PRC

Weather Conditions: Overcast and rainy, 54°F

Summary of Activities: The VSI for the MCC site began at 9:30 a.m. PRC personnel were joined by Tim Sonnenberg of MDNR for the inspection of the Landfill and the current Mazda site. The Landfill was inspected first, and then the Mazda site was inspected. The Mazda site included the MCC Building and possible locations of the Outside Container Storage Area, the Outside Storage Tanks, and the stormwater retention pond.

The purpose of the inspection, the site history, current operations, and SWMUs were discussed with Ford and Mazda representatives as the VSI was conducted. Ford and Mazda representatives did not provide complete information on past or current operations. During the walk-through inspection of the site, PRC observed the Landfill (SWMU 1). The Outside Container Storage Area (SWMU 2) and the Baghouse Dust Treatment Area (SWMU 4) are not currently located at the site. PRC observed possible locations of the Outside Underground Storage Tanks (SWMU 3) that have been removed. Two AOCs, the MCC Building (AOC 1), and the stormwater retention pond (AOC 2) were identified during the VSI.

No exit meetings were held between PRC, the MDNR representative, or the representatives from Ford and Mazda. The inspectors left the site at 6:25 p.m.



Photograph No. 1

Orientation: East

Description: The middle of landfill Cell B on the west side that contained ponded water

Location: SWMU 1

Date: 04/09/91



Photograph No. 2

Orientation: Northeast

Description: The middle of landfill Cell B on the west side

Location: SWMU 1

Date: 04/09/91



✓ Photograph No. 3
 Orientation: North
 Description: The middle of landfill Cell B on the west side

Location: SWMU 1
 Date: 04/09/91



Photograph No. 4
 Orientation: Southeast
 Description: The south side of landfill Cell B on the west side that contained ponded water

Location: SWMU 1
 Date: 04/09/91



Photograph No. 5

Orientation: South

Description: The southwest side of landfill Cell B that contained ponded water

Location: SWMU 1

Date: 04/09/91



Photograph No. 6

Orientation: Southeast

Description: The northwest corner of landfill Cell B that contained ponded water

Location: SWMU 1

Date: 04/09/91



Photograph No. 7
 Orientation: South
 Description: The northwest corner of landfill Cell B

Location: SWMU 1
 Date: 04/09/91



Photograph No. 8
 Location: SWMU 1
 Orientation: Northwest
 Date: 04/09/91
 Description: A seep west of
 landfill Cell C
 that leads to
 Smith Creek

Photograph No. 9
Location: SWMU 1
Orientation: West
Date: 04/09/91
Description: A culvert about 700 feet
in length between landfill
Cell B and Cell C



Photograph No. 10
Orientation: West
Description: The south of landfill Cell C in the middle

Location: SWMU 1
Date: 04/09/91



Photograph No. 11
 Orientation: Northwest
 Description: The middle of landfill Cell C on the south side

Location: SWMU 1
 Date: 04/09/91



Photograph No. 12
 Orientation: North
 Description: The southeast side of landfill Cell C

Location: SWMU 1
 Date: 04/09/91



Photograph No. 13
 Orientation: Northeast
 Description: The southeast side of Cell C

Location: SWMU 1
 Date: 04/09/91



Photograph No. 14
 Orientation: Southeast
 Description: Drainage pipe for prevention of erosion at the southeast corner of landfill Cell C

Location: SWMU 1
 Date: 04/09/91



Photograph No. 15
 Orientation: North
 Description: Erosion on west side of landfill Cell D in the middle

Location: SWMU 1
 Date: 04/09/91



Photograph No. 16
 Orientation: North
 Description: Capped portion of landfill Cell B on the southeast corner

Location: SWMU 1
 Date: 04/09/91



Photograph No. 17
Orientation: Northwest
Description: Capped portion of landfill Cell B on the southeast corner

Location: SWMU 1
Date: 04/09/91



Photograph No. 18
Orientation: Southeast
Description: Capped portion of landfill Cell B on the southeast corner

Location: SWMU 1
Date: 04/09/91



Photograph No. 19
 Orientation: Southwest
 Description: Capped portion of landfill Cell B on the southeast corner

Location: SWMU 1
 Date: 04/09/91



Photograph No. 20
 Orientation: East
 Description: The southwest corner of landfill Cell A

Location: SWMU 1
 Date: 04/09/91



Photograph No. 21
 Orientation: Northeast
 Description: The southwest corner of landfill Cell A

Location: SWMU 1
 Date: 04/09/91



Photograph No. 22
 Orientation: North
 Description: The southwest corner of landfill Cell A

Location: SWMU 1
 Date: 04/09/91



Photograph No. 23
 Orientation: North
 Description: Middle of western side of landfill Cell B

Location: SWMU 1
 Date: 04/09/91



Photograph No. 24
 Orientation: Southwest
 Description: Possible former location of Outside Container Storage Area east of the MCC Building

Location: SWMU 2
 Date: 04/09/91



Photograph No. 25

Orientation: Southwest

Description: Possible former location of Outside Container Storage Area east of the MCC Building

Location: SWMU 2

Date: 04/09/91



Photograph No. 26

Orientation: Northwest

Description: Possible former location of Outside Container Storage Area east of the MCC Building

Location: SWMU 2

Date: 04/09/91



Photograph No. 27

Orientation: West

Description: Possible former location of Outside Container Storage Area east of the MCC Building

Location: SWMU 2

Date: 04/09/91



Photograph No. 28

Orientation: North

Description: Possible former location of 20,000-gallon storage tank for spent waste oils

Location: SWMU 3

Date: 04/09/91



Photograph No. 29

Orientation: Northeast

Description: Possible former location of 20,000-gallon outside storage tank for spent waste oils

Location: SWMU 3

Date: 04/09/91



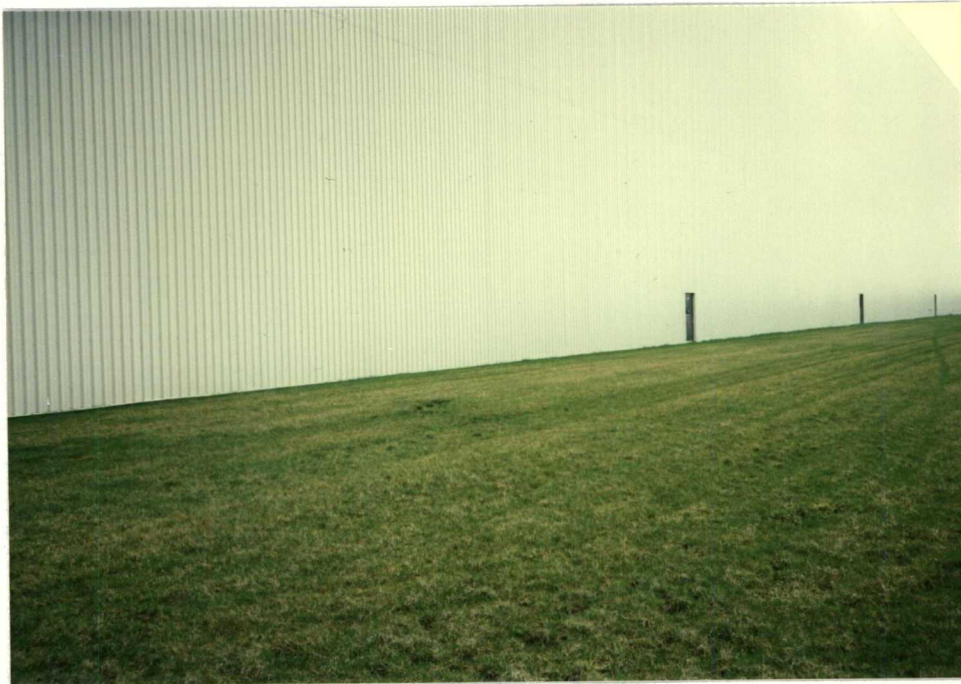
Photograph No. 30

Orientation: Southeast

Description: North corner of MCC Building; possible former location of 8,000-gallon outside storage tank

Location: SWMU 3

Date: 04/09/91



Photograph No. 31

Orientation: South

Description: North corner of MCC Building; possible former location of 8,000-gallon outside storage tank

Location: SWMU 3

Date: 04/09/91



Photograph No. 32

Orientation: West

Description: Southeast corner of stormwater retention pond near inlet

Location: AOC 2

Date: 04/09/91



Photograph No. 33
Orientation: Northwest
Description: Southeast corner of stormwater retention pond near inlet

Location: AOC 2
Date: 04/09/91



Photograph No. 34
Orientation: North
Description: Southeast corner of stormwater retention pond near inlet

Location: AOC 2
Date: 04/09/91

Photograph No. 35
Location: AOC 2
Orientation: West
Date: 04/09/91
Description: Small seep from the
landfill on west
side of stormwater
retention pond



Photograph No. 36
Orientation: South
Description: Northwest corner of stormwater retention pond

Location: AOC 2
Date: 04/09/91



Photograph No. 37

Orientation: East

Description: Northwest corner of stormwater retention pond

Location: AOC 2

Date: 04/09/91

ATTACHMENT C
VISUAL SITE INSPECTION FIELD NOTES

4/9/91

11:30 am

- Tim Smetburg - MDNR
- Jeff Hartland - Ford
- M. Frobert - PRC
- M. Johnson - PRC

- Wayne Disposal operates/
maintains site for Ford

- Large part of Cell B not
filled. Water has accumulated in
the cell

- Cell B - less sparsely covered

- Technical Report - March 30, 1986
Hydrogeologic Assessment -
Donald Gray - U of M

- There is no evidence of a
treatment area. Jeff
Hartland didn't have any

idea where the area was.

- T. Someburg noted a potential seep near cell C. It is murky gray in color and runs toward creek or drainage ditch. Took a picture.

- Walked all over the perimeter of the ^{small} landfill. Some areas of Cell C and D have eroded and hay has been put on them to stop erosion.

- The landfill is fenced. A small creek runs from the north west corner south to the southwest corner, then east to the southeast corner

of the site.

- Took photos of the cells of the landfill.

- We finished with Jeff at about 11:45; no formal exit meeting was held.

- PRC went to meet Terry Filipek at Mazda. At first he was reluctant to let us on. Apparently ~~his~~ Mazda's lawyers talked to U.S. EPA. PRC tried contacting Sherril Brachin, but couldn't reach her. Her previous direction was to inspect as many areas as

we could.

- PRC inspected the storm water retention pond. There was one small seep on the west side of the landfill near the pond; no other signs of release.
- PRC next inspected the MCC Building. We looked at an area that may have been the outside container storage area, and we looked at areas that might have been near the tanks. All these units have been removed. Terry Filipiak stated that Mazda reconfigured the building slightly by renovating it. This made it confusing to find some

of the previous locations of the SWMUs.

- PPG operates a paint storage unit at the site. This might be near where the container storage area was located.
- PRC inspected the inside of the MCC Building. There are two levels. The first level is mostly empty. Mazda uses it for equipment storage. Mazda also uses a small area for new product development.
- The downstairs contained some

equipment that appeared to be spray boots. There were also some ~~area~~^{as} dumps that were covered with l.d.s.

There were no visible signs of release; however, it was dark. Not all areas could be inspected because of the size of the plant (~1.7 million square feet) -

- Left at ~ 6:30. No exit meeting was requested or held.

- Photo log

Photos 1-7 - Cell B of the land fill

Photo 8: Seep west of cell C

(9) Culvert running between Cell B and C

(10-13) Cell C, various views

(14) Drainage pipe in Cell C to prevent erosion from run off

(15) West side of Cell D showing area of erosion that was maintained

(16)(19) capped portion of Cell B; Southwest corner

(20-22) S.W. corner of cell (A)

(23) middle of western edge
of Cell B; only area with
potential waste showing
(pile in background
middle)

(24-27) possible location of container
storage area (based on ~~map~~
location shown in Part ~~A~~
Part A application.

(28-29) possible former location
of 20,000 gallon tank shown
on Part A permit application

(30-31) possible location of 8,000
gallon tank (based on location
shown in Part A); north side
of building

(32-37) stormwater Retention
ponds; various views.